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Research Note

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Tablet *Terra Incognita*: Research Note on the Role of Tablets in Digital Parenting of Preschool Children

Abstract: Our research note reports the results of a qualitative and quantitative evaluation of the pilot edition of the Coding Masters Junior program, conducted in 2015 by Centrum Cyfrowe: Projekt Polska. It focuses on the results of a semantic analysis for the keyword "tablet" of the IDIs conducted with parents of preschoolers. The analysis has shown, among others, that in many households tablet is seen as belonging to the domain of the child, its property (toy). At the same time, quantitative research reveals that in 26% of tablet-owning households the device is not made available to the child. This strong polarization of practices shows that tablets remain a *terra incognita* to a significant group of parents, one they often have no wish to explore.

Keywords: tablet, digital parenting, semantic analysis, preschoolers, mobile technology

In 2018 there can be no doubt that contact with digital technologies is a common experience for a vast majority of Polish children since an early age. This trend is confirmed by data from the Diagnoza Społeczna [Social Diagnosis] research—91% of Polish households with children attending nursery schools or kindergartens have a computer with access to internet. Moreover, the intensity of modern technology use by children increases with age—information and communication technologies are used by 10% of three-year-olds, 37% of four-year-olds and 50% of five-year-olds, though this occurs predominantly under adult supervision (Batorski 2013: 317–341). Therefore in most Polish households the majority of members have contact with ICT devices on a daily basis and the parents or caregivers are responsible for introducing children to the digital world. According to the so-called eco-cultural approach, pre-school children begin to successfully acquire digital competences by watching adults or older siblings. Consequently, it is difficult to research children's use of new technologies without considering the digital activity of their parents (McPake, Plowman, Stephen 2012: 421–431). The role of a parent as a significant other is very important. Adults (not only parents, but also older siblings and teachers) should provide support and guidance to children in their independent explorations of new areas of knowledge or activities mediated by the use of digital technologies.

As late as 2015 the American Academy of Pediatrics held the view that children under the age of two should not have any contact with screen media. However, based on a nationwide research on the media use both by children and by their caregivers in the United States, the AAP developed new recommendations on healthy and developmentally safe use of new

technologies and media, published in October 2016. The authors emphasised the key role of parents and caregivers in an appropriate modelling of children's digital competences and created a tool for planning and managing time spent on media use in the household, pointing out how important it is that both caregivers and children are aware of their family's actual pattern of new technology use.

Thus, in today's world, the question to ask is not "whether" but "how" children, especially preschool and younger ones, should use display devices to be wisely introduced into the digital world.

In 2015, the authors conducted in Centrum Cyfrowe: Projekt Polska an evaluation of the pilot edition of the Coding Masters Junior program, financed by Samsung Electronics Polska. The program aimed to introduce preschoolers into creative and informed use of digital technologies by means of several educational games which featured elements of programming. The study was conducted in a relational perspective which defines the use of the Internet as one that may contribute to improving the quality of life of individuals (or the efficiency of institutions) and, consequently, improve or facilitate their functioning in a relevant area of importance. Field research consisted of three modules: observation of class activities carried out in 18 kindergartens participating in the pilot program (1 kindergarten from 15 voivodeships and 3 kindergartens from Mazovian voivodeship)—all kindergartens were chosen by the project coordinators from Samsung Polska; qualitative interviews—depth interviews with 18 female teachers conducting classes within the Coding Masters Junior program in groups of 3, 4 and 5 year olds as well as with 36 parents of children from the studied group (2 parents from each kindergarten), quantitative—questionnaires distributed among the parents of children from the studied group (347 questionnaires) and the teaching staff of the institutions participating in the program (180 questionnaires).

The perspective of parents on children's introduction into the digital word proved interesting enough to warrant a reflection on the realities of digital parenting in Poland, one that we wish to share in the present research note.

In this text we wish to focus primarily on the presentation of the results of semantic field analysis performed with the method developed by the team of researchers led by Régine Robin in Saint-Cloud Political Lexicography Center (Robin 1980) and used for transcripts of interviews with parents.

The method assumes that: "The text is not transparent. Looking for a meaning of the text, sentence or a word requires certain work on the text and to a degree, a defragmentation of the sentence's sequence in order to put it back again according to its significant readability" (Robin 1980). It consists of outlining semantic fields for specific key words allowing to determine their semantic networks—to find their several contexts and connections to other words, sentences and phrases, and consequently discover the essence of utterances on a deeper level. The research procedure consists of searching in the studied text the words and expressions which, in relation to the key word, perform the function of—attributes, equivalents, opposition, association, description of the activities of the subject (of the key word) and description of activities toward the subject.

Italicized text below presents expressions and semantic strings drawn from a pooled analysis of all interviews. Each network is accompanied by a short commentary from the authors.

Semantic Networks for "tablet"

Equivalents (naming the subject)
device, iPad, touch screen, touch screen phone of the iPhone kind, smartphone except bigger, application, game, story, toy like any other, electronic educational toy, Internet, the tablet and the Internet are the same, tablet is her free time

Equivalents network shows that parents view the tablet entirely as the domain of the child, relating it to the sphere of play and treating as a form of entertainment rooted in a child's world. Importantly, the category of play resurfaces not only in the network of actions directed at the subject, presented below, but also in the network organized around finding expressions to name the subject. Thus, it does not only describe the tablet's functionality for children but identifies the device with a specific activity performed by children. It is also significant that on the level of definition the device is equaled with free time.

Attributes (describing the subject)
perfect solution, indispensable device, it's like the TV [provides the same standard]
intuitive, operated by touch, most convenient, more convenient for the child to use [than a laptop], bigger [than a phone], it is tiny, new, easy [as it is a newer model], the easiest device to use for children—like the spoon among knives and forks, but difficult for someone older
one is satisfied with it, I like it a lot, it's cool, the coolest, it is well liked but not of key importance, the children love it
my [mother's tablet] belongs to the child, daughter, son, to be honest it's not ours but the kids'
you get it as a reward, you get it through various promotions from the mobile providers, it's a birthday gift [third, fifth birthday], from grandma, from grandparents, in fact it's not used at all

The network of descriptions clearly shows that parents see the tablet a device best suited to the needs and abilities of a preschooler—which is perfectly summed up by the spoon metaphor, drawn from the world of everyday experiences of a young parent. Parents appreciate the tablet's ease of use as it frees them from assisting the child as it uses the device.

Tablets also clearly produce positive emotions in children. The issue of ownership distinctly linking the tablet to the child seems to be a particularly important thread revealed in this net. Moreover, the child knows how to use the device, as opposed to adults, lacking ideas how to use it and often not using it as a result.

Opposities (oppositions of the subject)
television, phone [whose battery keeps dying], laptop, laptop with a mouse [that is more difficult to use], computer [whose keyboard makes it more difficult to use for children, something children are completely uninterested in, something forgotten entirely]
playdough, moon sand, lego, paints, real puzzles, dolls, rollerblading with friends, jiu-jitsu practice, playing with other kids, playing with peers [which has more value]
books, sitting down together to read

Parents list two types of opposites—traditional toys on the one hand, difficult and boring devices on the other which strongly underscores the advantages of the tablet.

The network of tablet opposites includes also specific toys (which only strengthens the importance of the abovementioned "toy" equivalent) and, most importantly, active forms of entertainment in the company of other children, or time spent with a book and active participation of the parent.

This type of opposition revealed in the analysis shows that the tablet is associated primarily with a one on one activity (child—tablet).

Associations (context and associations of the subject)
playtime, some simple games—doodles and whatnot, games [Lego Ninjago, Angdy Birds, Minecraft], onomatopoeic games, letters, memory games, educational games, sudoku, stories, watching cartoons and shows[Max Steel, Little Einsteins]
applications, Internet access turned on, off, domain and WiFi
playing while waiting for a doctor's appointment, driving, headrest grip, while the younger siblings nap
parental consent, limited time, allotted time measured with a timeswitch, firmness, anger and intensification in the child, squealing, crying [when time allotted for tablet use ends], stomping, kicking the door, throwing a tantrum, crisis in the winter [with the younger daughter hospitalized] the older one was glued to the tablet
taking the tablet away as a punishment, lying to the child that the device broke
financial aspect—not all children in the kindergarten have a tablet at home, kids who already have those are fortunate
school, useful at school, all friends at school have one already

Associations above show that parents relate the tablet mostly to playing games and watching cartoons; the network also includes specific situations where the device is used for such purposes. Importantly, these are times when the child's activity involving the use of the device is meant to make it "stay quiet for a moment, without disturbing anyone"—meaning that parents fail to reflect more deepely on the long term goal of the child's interaction with the tablet (entertainment, education, development) and focus on its situational and short term uses. Another important observation is to be made on the connections between the device and the child's emotions, which are very difficult and strong. The issue of limiting tablet use resurfaces as well: over half of the parents participating in the research declared that they restrict the time their children are allowed to spend with the tablet and that they believe this to be absolutely necessary. Revealed associations with the families' financial situation and the fact that tablets become associated with school are also of significance.

Activities of the subject (forms of its activity)
it gives parents some peace and quiet, peace on the weekends, gives the parent some alone time [the child is to use the device without the need for parental assistance], it calms and pacifies the child when parents have something to do
given to the son for the time of journey, it helped to survive a long journey, it gives the kid something to do [the child has something to do upon returning home from the kindergarten]

we got it later [after the desktop and the laptop], we got it three years ago, it became part of the living standard
it actually just lies there unused, it didn't serve its purpose [the parent has no idea how they can use the device]

Expressions appearing most frequently in this semantic network are related to the parent finally getting some rest (or peace and quiet). Assuming that the latter is a rationed good, and one in constant demand, as its supplier the tablet appears to have become a highly important element of family life. This approach, however, begs the question why the parents need peace and free time to such an extent and what exactly it is that they need to get some rest from (is it only work or the child as well). These are not questions we have answers to, but we find their very appearance significant.

The tablet is bought for the child and not "for a reason" as it serves the parents to fill the child's time with something, the device is to keep the child occupied and not help in anything particular. A resulting side effect—a kind of rationalization—includes learning to use it and becoming familiar with digitization.

Another important issue resurfacing in the network of the subject's activities is the temporal perspective. Although the tablet remains the newest device in the surroundings of the researched families, it has very quickly inscribed itself into everyday practices, "became part of the living standard."

Importantly, also in this network one notes the lack of ideas for the use of the device by adults.

Activities toward the subject (forms of activities taken in relation to the subject)
you "are" on the tablet, spend time on it, uses it, watch, do something on it, you can play something on the tablet, you can connect it to the Internet and use in interesting ways, you use it to access the Internet, Facebook, mailbox
kids take pictures with it, have their favorite games installed on it, they can edit drawings on it, color them, change the background and so on, it's used for watching movies, to play a cartoon on it in the evening, kids tend to use them more in the winter
kids quickly pick up things on the tablet, kids use it easily
it's a manual exercise, it's touched with a finger
it's bought for a child [even a 6 months old one], it's given to kids, grandma brings it, grandma gives it as a gift, older sisters chip in for it [as a gift for the third birthday], the child wants mummy to buy it, it asks for a tablet, I'll give my son a tablet when he's able to turn off the cartoon himself [control the time he spends watching cartoons]
the child lies down with the tablet in its room, lies with the tablet in its bed, on the pillow watching cartoons without the parents taking care of it, you can abandon the child with the tablet [not spending time with the child], some kids use it non-stop, the child becomes immersed in its own world [is absent], the child acts nervously when the tablet is not there—"Give me the tablet!", spitting on the tablet and hurling it [to recover from anger after being forbidden to use it], the child refuses to give back the tablet [it wants to continue using it]
the child waits for the tablet, asks for it, children are not allowed to use it without permission, you can be allowed to use it, grandpa allows to use it, one controls the use of the tablet, autistic children should have restricted access to it

one sanctions the tablet and bans it
tablets are put away on weekdays, their use is limited on weekdays, no tablet on weekdays
the tablet isn't used, it's just hidden, it's put away, it's in a cabinet [daughter uses it sometimes to watch cartoons]
it has its own special shelf [in the son's room], it has to be kept in the daughter's room because she got it as a gift, it's used to encourage the child to go to kindergarten [perhaps you'll be using tablets today?]
each kindergarten and [each] preschool teacher should have access to them

The network of activities toward the subject includes several issues, some of which have already appeared before: watching cartoons and playing games as the child's main use of the tablet, the device being well adjusted to a young user, the question of property and the desire for it, controlled access and limited time of use.

Some of the issues mentioned before are much more developed and deeper in this network. Emotions that connect the child and the tablet were mentioned previously only in their positive aspects, whereas in this semantic network they are mainly negative. The child cannot stop using the tablet on its own and when the adult tries to enforce it, the preschooler frequently displays anger, even aggression. This is surely related to satiation but may also be a feedback reaction to the child sensing somehow that it was given a chance to watch cartoons or play games not for its own enjoyment but to give parents some respite.

Controlling the use of tablet by hiding it is yet another interesting and expanded thread in this network. Unlike the TV set, computer or the phone (which the parent usually wants to keep at hand), the tablet can indeed be easily hidden from the child—it is small, takes little space and will not ring suddenly. Such approach is based on the "out of sight, out of mind" principle which reinforces the parents' conviction that the child desires the tablet so much it will not be able to resist it when the device is within reach.

Importantly, the view on the use of tablets in the kindergarten is unambiguously positive in this network.

Summary: Post-fieldwork Reflection on the Issue of Digital Parenting with Regard to Preschool Children

Digital technologies constitute a great challenge to parents. Accustomed to a situation where educational responsibilities rest on the institutions, parents do not see technology as an sphere they should properly introduce their children into rather than simply providing them with ICT devices. Further, as confirmed by the already cited research of the Empowering Children Foundation, stating that 68% of parents give children access to mobile devices when they need to take care of some other affairs, children are largely left on their own when using ICT devices (Bąk 2015: 7). Meanwhile, quantitative data collected during the project reveal the child as the main and most frequent user of the tablet and computer in 19% of the researched families (Buchner, Kisilowska, Wierzbicka 2016: 62).

According to the aforementioned ecocultural approach, children aged three and four begin to successfully acquire digital competences by observing adults. Relatively limited use of digital technologies by the parents as well as the fact that 79% of children use ICT devices to watch movies, and 62% to play games (Bąk 2015), seem particularly worrying in the context of research indicating that digital exclusion among children is noted along different lines than in the case of adults (divided into those who do and do not use digital technologies): children are divided into those who use technology creatively and reflectively and those whose use of technology is passive and focused on consumption (Digital Media & Learning in Afterschool 2013).

The results of the survey conducted among parents participating in the project reveal that in as many as 26% of households where a tablet is owned, the device never made available to the child (Buchner, Kisilowska, Wierzbicka 2016: 79). One can therefore assume that parents do not see and do not know the educational potential of applications which can be easily installed on the device. At the same time, as clearly confirmed not only by the quantitative data on the time children spend using tablets but also by the presented semantic analyses, in many households the tablet is seen as belonging to the domain of the child, its property (toy). This strong polarization of practices shows that tablets remain a *terra incognita* to a significant group of parents, one they often have no wish to explore. Some of them self-reflected on the subject: *I can see that all of us, sadly, 90% of us, and I also belong to this group, make the cardinal mistake of allowing our kids to use technology without explaining how it can be put to the wisest use*. The paradox lies in the fact that, on the one hand, parents instinctively sense that digital tools and applications, as well as their goals and usage, should be carefully selected and monitored (Hatch 2011: 5), but on the other—they have no idea how to proceed about this. Due to this ambivalence, the use of digital technologies in parenting practices is subject to a number of social hiding practices—it is tabooed, connected with social economic position (Czyżewski, Dunin, Piotrowski 2010), associated with the discourse of anxiety and subject to stigmatizing moral panics (Zielińska 2004; Cohen 1972). This results in a dissonance between the declared and actual digital practices within parenting and educational activity, as noticeable in research. Consequently there is a lack of verified knowledge regarding the process of growing up in the new media environment. Meanwhile the world is undergoing inevitable changes which make it impossible to prevent the youngest generation from exposure to digital technologies. However, we can become aware of its effects, equip both parents and children with digital competences and regulate the practice of digital technologies use in the process of childcare.

Korzeniewska notes: "Parents should make sure that tablets and computers 'grow' with the children and that the applications installed on them, or websites with parental control, change over time and are updated to match successive stages of the child's development" (Buchner, Kisilowska, Wierzbicka 2016: 71). Parents do not know, however, how to do this, nor where to find information on aspects of digital technologies appropriate for a given stage of development. *Terra incognita*—an unknown land—seems a particularly appropriate term especially as we are talking about an area of parenting where own childhood experiences cannot be used and sources of relevant information are unknown. The latest research on digital parenting was published on February 8, 2018 by a team from The London School of Economics and Political Science (Livingstone, Blum-Ross, Pavlick 2018). The results

of quantitative research conducted on a sample of N = 2032 parents of children aged 0–17 confirm that the parents feel they do not have enough information and guidelines on how to manage new technologies in their children's lives and they do not know where to find support in that matter. Moreover, one of the main sources of conflicts between parents and children is the amount of time spent using the ICT devices, not their media activity or the accessed content. One can assume a similar tendency occurs also among the Polish parents.

Finally, the authors would like to share a research intuition: that finding answers to the research question about the shape of practices in digital parenting in Poland is of utmost importance and necessity. This should include investigating social practices related to young children's actual contact with digital technologies in Polish families, as well as the issues of where (and whether at all) parents obtain relevant information on the subject; how they understand a safe introduction of children into the digital world; whether and how the problem relates to their place of residence, level of digital literacy, lifestyle, financial status and education.

Based on the available knowledge, it is possible to formulate preliminary hypotheses:

— Digital parenting practices change parenting models and patterns of intergenerational relationships characteristic to contemporary nuclear families. Digital technologies mediate family relationships. Mobile devices—as a new social actor with whom family members interact in various ways—constitute an important element of family systems.
— Digital parenting practices bear some hallmarks of taboo and are not associated with social prestige in parental environments and discourses. Parents either do not admit or only reluctantly admit to using digital technologies in the process of raising their children and to the new media being present in their practices of family life.
— Such factors as demographic variables (make-up of the family, gender, dwelling place), macrosocial conditions (family's place within the social structure) and cultural circumstances (lifestyle) impact the perception of digital technologies and the nature of digital parenting practices.
— Democratization of access to mobile devices does not translate into the elimination of digital exclusion in families. Digital technologies may serve both as a tool of social inclusion and as a means to deepen social inequalities.
— Parent's presence influences child's perceptions and emotions regarding the content of messages received via digital technologies.
— A change in the style of digital parenting occurs through a gradual process of making the digital technology use reflexive and embodying new habits regarding digital practices. Supporting the increase in digital competences requires simultaneous work on discoursive consciousness and practical consciousness.

The authors hope that presented results and formulated hypotheses, may provide a reason for further scientific reflection on the subject of digital parenting.

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